What is claimed is:

1. A satellite based positioning method, comprising:

a mobile station using stored satellite sub-almanacs to acquire a plurality of satellites;

the mobile station using the satellite sub-almanacs to take measurements;

the mobile station using the sub-almanacs to calculate a coarse position of the mobile station; and

the mobile station transmitting the coarse position to a network.

2. The method of claim 1, wherein the mobile station further stores the coarse position, and wherein the mobile station transmits the coarse position to the network after a period of time.

3. The method of claim 1, further comprising:

the network calculating a correction to the coarse position; and

the network transmitting the correction to the mobile station.

4. The method of claim 1, further comprising:

determining whether any of the sub-almanacs require replacement; and

transmitting and required replacement sub-almanacs to the mobile station.

5. The method of claim 4, further comprising the mobile station transmitting an indication of an acceptable level of error to the network, wherein determining whether

any of the sub-almanacs requires replacement includes determining whether the acceptable level of error has been exceeded.

6. The method of claim 1, further comprising:

the mobile station receiving a reference position; and

the mobile station using the reference position to calculate the coarse position.

7 The method of claim 6, wherein the mobile station transmitting the coarse position comprises transmitting a position difference between the reference position and the coarse position.

8. The method of claim 3, further comprising the mobile station transmitting an identification list to the network, wherein the identification list comprises identifications of particular satellites used in calculating the coarse position, and identifications of particular sub-almanacs for each of the particular satellites.

9. The method of claim 8, wherein calculating the correction comprises calculating a position correction vector over satellites used to calculate the coarse position.

10. The method of claim 8, wherein calculating the correction comprises calculating a pseudorange correction for each satellite used to calculate the coarse position.

11. The method of claim 8, wherein calculating the correction comprises calculating a differential correction, wherein the differential correction accounts for

discrepancies between calculation results obtained using ephemeris data and pseudorange data observed by a reference receiver at a known location.

12. A satellite based positioning system, comprising:

a location server in a network, wherein the location server receives satellite positioning data, including global positioning system (GPS) data;

a base station in the network;

a mobile station configured to communicate with the base station, wherein the mobile station comprises,

a memory that stores satellite sub-almanac data;

a central processing unit (CPU) configured to calculate a coarse position using the sub-almanac data; and

a transceiver configured to transmit the coarse position to the network.

13. The system of claim 12, wherein the location server is configured to calculate a correction to the coarse position.

14. The system of claim 13, wherein the mobile station is further configured to transmit an identification list to the network, wherein the identification list comprises identifications of particular satellites used in calculating the coarse position, and identification of particular sub-almanacs for each of the particular satellites.

15. The system of claim 14, wherein the location server is configured to determine whether any of the sub-almanacs require replacement, and to transmit any required replacement sub-almanacs to the mobile station.

16. The system of claim 15, wherein the mobile station is further configured to transmit an indication of an acceptable level of error to the network, and wherein determining whether any of the sub-almanacs requires replacement includes determining whether the acceptable level of error has been exceeded.

17. The system of claim 12, wherein the mobile station is further configured to receive a reference position, and to use the reference position to calculate the coarse position.

18 The system of claim 17, wherein transmitting the coarse position comprises transmitting a position difference between the reference position and the coarse position.

19. The system of claim 16, further comprising the mobile station transmitting an identification list to the network, wherein the identification list comprises identifications of particular satellites used in calculating the coarse position, and identification of particular sub-almanacs for each of the particular satellites.

20. The system of claim 19, wherein calculating the correction comprises calculating a position correction vector over satellites used to calculate the coarse position.

21. The system of claim 19, wherein calculating the correction comprises calculating a pseudorange correction for each satellite used to calculate the coarse position.

22. The system of claim 19, wherein calculating the correction comprises calculating a differential correction, wherein the differential correction accounts for discrepancies between calculation results obtained using ephemeris data and pseudorange data observed by a reference receiver at a known location.

23. A method of determining a position of a mobile station, the method comprising:

the mobile station storing sub-almanac data;

the mobile station using the sub-almanac data to calculate a coarse position;

the mobile station transmitting the coarse position and an identification list to a network, wherein the identification list comprises identifications of particular satellites used in calculating the coarse position, and identifications of particular sub-almanacs for each of the particular satellites;

the network calculating an estimated range error per satellite; and

if the estimated range error exceeds a predetermined threshold for particular sub-almanacs, transmitting replacement sub-almanacs to the mobile station.

24. The method of claim 23, further comprising, if the estimated range error does not exceed the predetermined threshold for any of the sub-almanacs, calculating a final position solution for the mobile station.

25. The method of claim 23, further comprising:

re-transmitting a position request to the mobile station; and

the mobile station recalculating a coarse position using the replacement sub-almanacs.

26. A satellite based positioning method for a mobile station in communication with a network, the method comprising:

the mobile station transmitting an identification list comprising identifications of particular satellites thought to be in view, and identifications of particular sub-almanacs for each of the particular satellites;

the network estimating range errors for each of the particular sub-almanacs;

the network transmitting replacement sub-almanacs to the mobile station for each sub-almanac for which a predetermined range error threshold is exceeded; and

the mobile station calculating a coarse position using the sub-almanacs including any replacement sub-almanacs.

27. The method of claim 26, further comprising:

the mobile station transmitting the coarse position and a new identification list to the network; and

the network calculating a final position solution for the mobile station.

28. A satellite based positioning method for a mobile station in communication with a network, the method comprising:

the mobile station calculating which particular satellites the mobile station tracks;

the mobile station determining whether any sub-almanacs associated with the particular satellites are older than a predetermined maximum age;

if one or more of the sub-almanacs are older than the predetermined age, the mobile station transmitting to the network an identification list and an error threshold, wherein the identification list comprises identifications of particular satellites thought to be in view, and identifications of particular sub-almanacs for each of the particular satellites;

the network estimating range errors for each of the particular satellites; and

the network transmitting replacement sub-almanacs for any satellites for which the range error exceeds the error threshold.

29. The method of claim 28, further comprising the mobile station using stored data and any replacement sub-almanacs to acquire satellites and take measurements.

30. The method of claim 29, further comprising:

the mobile station calculating a coarse position;

the mobile station transmitting the coarse position and an identification list to the network; and

the network calculating a final position solution for the mobile station.

31. A machine-readable medium having instructions stored thereon, which when executed cause a processor to perform a satellite positioning process, wherein the process comprises:

using stored satellite sub-almanacs to acquire a plurality of satellites;

using the satellite sub-almanacs to take measurements;

using the sub-almanacs to calculate a coarse position of a mobile station; and

transmitting the coarse position to a network.

32. The machine-readable medium of claim 31, wherein the process further comprises storing the coarse position, and transmitting the coarse position to the network after a period of time.

33. The machine-readable medium of claim 31, wherein the process further comprises:

calculating a correction to the coarse position; and

transmitting the correction to the mobile station.

34. The machine-readable medium of claim 31, wherein the process further comprises:

determining whether any of the sub-almanacs require replacement; and

transmitting and required replacement sub-almanacs to the mobile station.

35. The machine-readable medium of claim 34, wherein the process further comprises transmitting an indication of an acceptable level of error to the network, wherein determining whether any of the sub-almanacs require replacement includes determining whether the acceptable level of error has been exceeded.

36. The machine-readable medium of claim 31, wherein the process further comprises:

receiving a reference position; and

using the reference position to calculate the coarse position.

37. The machine-readable medium of claim 36, wherein transmitting the coarse position comprises transmitting a position difference between the reference position and the coarse position.

38. The machine-readable medium of claim 33, wherein the process further comprises transmitting an identification list to the network, wherein the identification list comprises identifications of particular satellites used in calculating the coarse position, and identification of particular sub-almanacs for each of the particular satellites.

39. The machine-readable medium of claim 38, wherein calculating the correction comprises calculating a position correction vector over satellites used to calculate the coarse position.

40. The machine-readable medium of claim 38, wherein calculating the correction comprises calculating a pseudorange correction for each satellite used to calculate the coarse position.

41. The machine-readable medium of claim 38, wherein calculating the correction comprises calculating a differential correction, wherein the differential correction accounts for discrepancies between calculation results obtained using ephemeris data and pseudorange data observed by a reference receiver at a known location.